



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,854	10/31/2003	Brian T. Denton	BUR920020087US2	2853
24241 7590 01/18/2007 IBM MICROELECTRONICS INTELLECTUAL PROPERTY LAW 1000 RIVER STREET 972 E ESSEX JUNCTION, VT 05452			EXAMINER RAO, SHEELA S	
			ART UNIT 2125	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/18/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/605,854	DENTON ET AL.	
	Examiner	Art Unit	
	Sheela Rao	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

1. Applicant's response and amendments filed on 6 November 2006 has been entered and considered.
2. Claims 1-22 are pending and presented for examination. Claims 1, 5-8, 10, 12, 16-17, 19, and 21 have been amended.

Response to Amendment

3. The rejection of claims 1, 3-12 and 14-22 under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant's regards as the invention is withdrawn in light of the amendments made and explanations given.
4. The rejection of claims 1-22 under 35 USC §102 (b), as being anticipated by USPN 5,408,663 issued to Miller is withdrawn.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,971,585 issued to Dangat et al.

The reference of prior art by Dangat et al. (hereinafter, "Dangat") teaches of a computer implemented decision support tool that serves as a solver to generate a best can do match to produce production plans within manufacturing facilities. Dangat anticipates the limitations of the instant invention as stated herewith.

With regard to claims 1 and 12, the solving of a linear program to determine a production plan is taught by Dangat at column 11, line 62 wherein it is stated that the matching solution depicted in Fig. 2 is based on liner programming, and also at column 14, lines 6-24 in reference to Fig. 7. The step of

sequencing start variables based on featured values is taught at column 17, line 38 et seq.; wherein, the decision on matching variables as when used with linear programming technology is detailed. The modifying step where the production starts in the sequence according to a branching strategy so as to satisfy constraints is taught in column 17 at lines 51 through 55, where the variables are revised to satisfy capacity issues prior to being assigned.

As per the limitations of claims 2 and 13 wherein the branching strategy is defined to involve the branching of multiple variables in each iteration until infeasibility is encountered is taught by Dangat column 17, lines 52-67 and column 21, line 63 et seq. The aspect of adjusting for sake of capacity accommodation and converting the matching solution into a detailed supply chain analysis report is explained.

In terms of the limitations claimed by instant claims 3 and 14 that claim the step of sequencing production start variables with respect to the position of a part number in the bill of materials is taught by the prior art reference at column 22, lines 9-22. The supply chain information includes part numbers, dates, and demand, among others. The user makes selections based on how the item is defined in the bill of materials.

As with the step of sequencing production using a branching strategy as claimed by instant claims 4 and 15, Dangat defines this feature by explaining how the supply chain report is created, beginning at line 23 of column 22 along with Fig. 9.

With regard to the lot-size constraints being defined by a set of possible values, arbitrary or discrete, as per instant claims 5, 16 and 6, 17, respectively, Dangat states at column 1, line 34 that it is well known for lots to be sized at groups of 25. Making adjustments based on constraints is a simple choice of design and can be varied based on the task at hand.

The limitations of claims 7-11 and 18-22 define the invention as claimed by instant claims 1-6 and 12-17, respectively, with the difference of separating the production variables into sub-problems and determining a solution to sub-problems which would lead to an improvement in the overall production planning process. To this regard, column 17, line 30 explains the division of the lots into buckets and the splitting of the production. Further, the dividing of the production variables into sub-problems based on

assembly and component relationships in the bill of material as claimed by claims 9 and 20, is taught at line 44 of column 22, wherein the production start can be translated into needs for components of the productions starts list based on the bill of materials. At column 10, line 37 it is also stated that at each start, capacity is checked and calculated, and if the capacity is exceeded the request to begin manufacturing is moved or split to fit capacity. The relaxing of production operation constraints in the linear program as per instant claims 10 and 21, is taught beginning at line 21 of column 21; wherein Dangat's aspect of splitting is detailed. Lastly, the production operation constraints are considered to be of capacity, inventory, supply, sourcing, and backordering. The supply chain information includes details with regard to part numbers, date, demands, inventory, etc. However, this again is a design choice that can be further limited as per the requirements of the task at hand.

The limitations of claims 12-17 and 18-22 have been linked with claims 1-6 and 7-11, respectively, as the former claims are directed to a program storage device readable by machine and tangibly embodying a program of instructions executable by machine, i.e. the software program, for the method of computing as claimed by the latter claims. The limitations are parallel in nature and have therefore been addressed together.

For the reasons stated above, the limitations of the claimed invention is taught by the prior arts of record; thereby, rendering the instant claims unpatentable.

Response to Arguments

7. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection as aforementioned.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

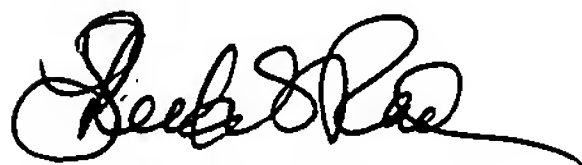
US Patent Application Publication No.	US 2003/0208392 A1	Shekar et al.
US Patent Application Publication No.	US 2003/0033180 A1	Shekar et al.
US Patent Application Publication No.	US 2003/0216952 A1	Klett et al.

Art Unit: 2125

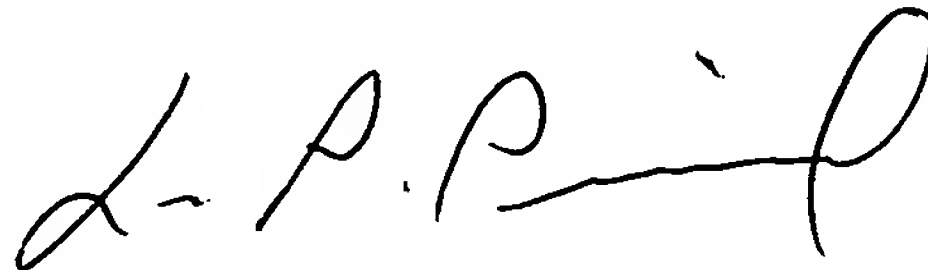
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela Rao whose telephone number is (571) 272-3751. The examiner can normally be reached Monday - Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard, can be reached on (571) 272-3749. The fax number for the organization where this application or any proceeding papers is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. It should be noted that status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should any questions arise regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sheela S. Rao
January 10, 2007



LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100